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Fax 949.362.0290

January 25, 2006

Mr. Jay Bento  
Santa Ana Fire Department  
Underground Storage Tank Division  
1439 South Broadway  
Santa Ana, California 92707

Sent via UPS

Subject: Well Destruction Report  
ARCO Facility No. 6085  
1222 East First Street  
Santa Ana, California

Dear Mr. Bento:

Delta Environmental Consultants, Inc. (Delta), on behalf of Atlantic Richfield Company, has prepared this *Well Destruction Report* detailing the proper destruction of seven soil vapor extraction (SVE) wells at ARCO Facility No. 6085, (the Site, Figure 1) located at 1222 East First Street, Santa Ana, California. These wells were properly destroyed at the request of Orange County Health Care Agency (OCHCA) in order to facilitate this site for case closure.

### WELL DESTRUCTION ACTIVITIES

On December 2, 2005 Delta was on-site to oversee the destruction of seven SVE wells (B-6, B-7, B-8, B-9, B-10, VW-1, and VW-2). A site map showing the locations of all wells is provided as Figure 2. Well construction details for all wells are provided in Table 1. Cascade Drilling, Inc. of Norwalk, California (License No. C57-71510) was contracted to provide the equipment and personnel required to conduct the field activities. The invoice for field activities and materials used is included in Attachment A. Prior to initiating field activities, a well destruction permit was obtained from the OCHCA (Attachment B), and Underground Service Alert was notified.

SVE wells B-7, B-9, B-10, VW-1 and VW-2 were properly destroyed by pressure-grouting. Wells B-7, B-9, B-10, VW-1, and VW-2 were pumped under pressure with approximately 10, 30, 30, 40, and 50 gallons of grout, respectively. The upper 2 feet of the each well was filled with bentonite chips and capped with concrete to match the surrounding surface. The wells could not be over-drilled due to the close proximity of each well to dispensers, pipelines or underground storage tanks.

Wells B-6 and B-8 were unable to be located; however, both wells B-6 and B-8 were once connected to the former SVE system via lateral piping. During well destruction activities approximately 35 gallons of bentonite grout was pumped under pressure into the SVE manifold and into the lateral lines of well B-6 and B-8. The

volume of grout used, for each well destruction, was greater than the calculated volume of grout required to fill each SVE lateral line and properly destroy each well.

#### REMARK/SIGNATURES

The recommendations contained in this report represent Delta's professional opinions based upon the currently available information and are arrived at in accordance with currently acceptable professional standards. This report is based upon a specific scope of work requested by the client. The Contract between Delta and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this report were performed. This report is intended only for the use of Delta's Client and anyone else specifically listed on this report. Delta will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, Delta makes no express or implied warranty as to the contents of this report.

If you have any questions or comments concerning this report, please contact the undersigned at (949) 860-0209.

Sincerely,

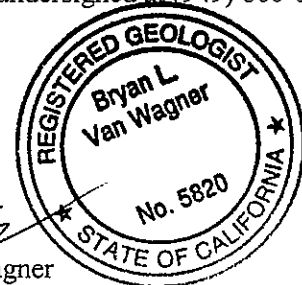
**DELTA ENVIRONMENTAL CONSULTANTS, INC.**



Christopher A. Ota  
Project Manager

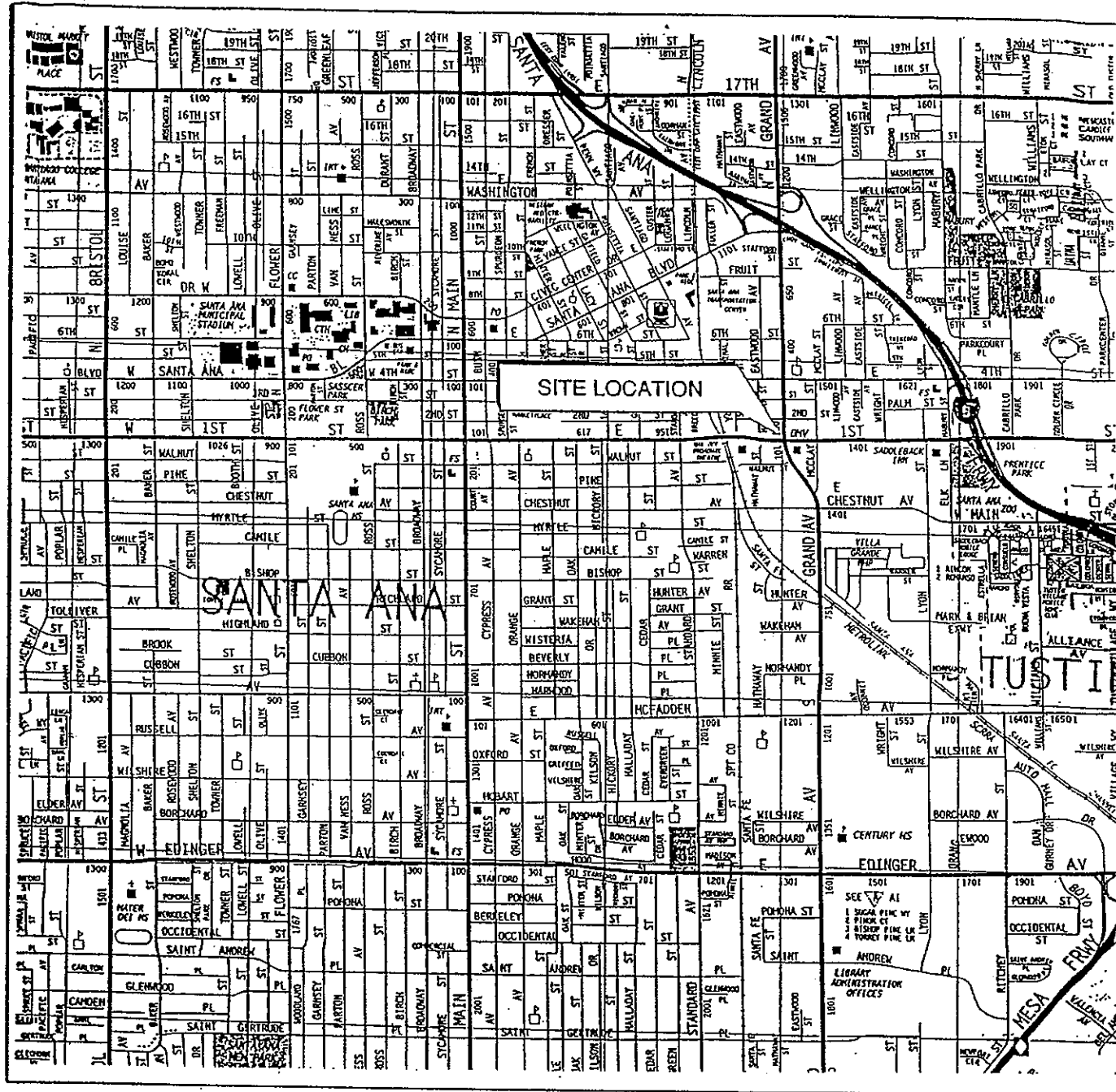


Bryan Van Wagner  
California Professional Geologist No. 5820  
California Hydrogeologist No. 295



Attachments:	Figure 1	Site Location Map
	Figure 2	Site Map
	Table 1	Well Construction Details
	Attachment A	Cascade Invoice
	Attachment B	OCHCA Well Destruction Permits

cc: Mr. Bobby Lu, Atlantic Richfield Company, La Palma, California  
Ms. Valerie Jahn-Bull, CRWQCB – Santa Ana Region, Riverside, California  
Mr. Dan Yokayama, OCHCA – Santa Ana Region, Riverside, California



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FIGURE 1  
SITE LOCATION MAP  
ARCO FACILITY NO. 6085  
1222 EAST FIRST STREET  
SANTA ANA, CA.

PROJECT NO.  
AM00-629

FILE NO.  
8-616-03

DATE  
30 MAY 02

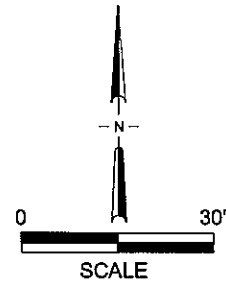
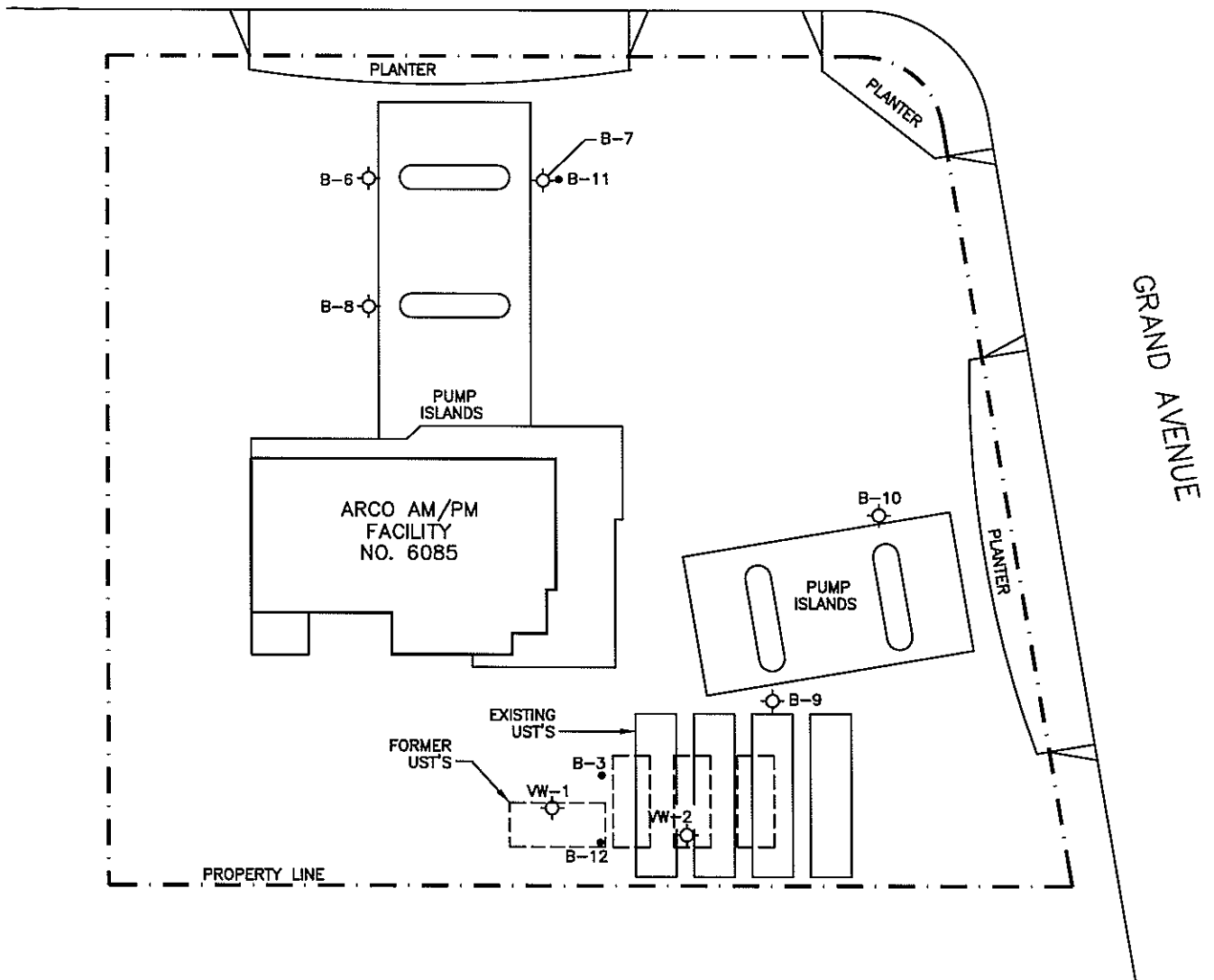
DRAWN BY

PREPARED BY  
M. LUCAS

REVIEWED BY



FIRST STREET



**LEGEND**



- B-9  DESTROYED WELL LOCATION  
 B-12  VERTICAL SOIL BORING LOCATION

FIGURE 2  
 SITE MAP  
 ARCO FACILITY NO. 6085  
 1222 EAST FIRST STREET  
 SANTA ANA, CA.

PROJECT NO. G0B5Y	DRAWN BY K. MARTIN
FILE NO. 8-616-05	PREPARED BY C. OTA
DATE 23 JAN 06	REV. 0 REVIEWED BY



TABLE 1

WELL CONSTRUCTION DETAILS  
ARCO FACILITY NO. 6085  
1222 EAST FIRST STREET  
SANTA ANA, CALIFORNIA

Well I.D.	Date Construction Completed	Well Type	Total Depth (feet bgs)	Screen Interval (feet bgs)	Casing Diameter (inches)
B-6	08/06/93	Vapor Extraction	10	5 - 10	4
B-7	08/03/93	Vapor Extraction	7.5	3 - 7.5	4
B-8	08/03/93	Vapor Extraction	9.5	4 - 9.5	4
B-9	08/03/93	Vapor Extraction	17	7 - 17	4
B-10	08/02/93	Vapor Extraction	17	7 - 17	4
VW-1	08/02/93	Vapor Extraction	22	7 - 22	4
VW-2	08/02/93	Vadose	36	26 - 36	4

## NOTES:

bgs                      = Below ground surface

## **ATTACHMENT A**

Cascade Invoice



SAFETY FIRST

**CASCADe DRILLING, INC.**  
CALIFORNIAL.A.: 11250 Firestone  
Norwalk, CA 90650  
(562) 929-8176 PH  
(562) 863-9534 FAXSeattle: PO Box 1184  
Woodinville, WA 98072  
(425) 485-8908 PH  
(425) 485-4368 FAXPortland: 15635 SE 114th  
Clackamas, OR 97015  
(503) 775-4118 PH  
(503) 775-4099 FAXSacramento: 3632 Omec Cir.  
Rancho Cordova, CA 95742  
(916) 638-1169 PH  
(916) 638-5611 FAX

<b>CLIENT:</b> Delta				<b>CLIENT P.O. #:</b> 6085			
<b>JOB LOCATION:</b> 1222 E First St							
<b>DIG ALERT#:</b>				<b>DATE:</b> 12/2/05		<b>HOURS</b>	
<b>CASCADe PROJECT#:</b> NOS-670.01				<b>DAY:</b> Fri		<b>START</b>	<b>STOP</b>
<b>WELL#</b>	<b>DEPTH</b>	<b>DESCRIPTION OF WORK</b>			<b>A.M. SHOP TIME</b>	<b>530</b>	<b>545</b>
<b>BORING#</b>	<b>DRIILLED</b>				<b>TRAVEL TO SITE</b>	<b>545</b>	<b>645</b>
						<b>700</b>	<b>730</b>
		H + Safety meeting					
		Set up City Rig				<b>730</b>	<b>830</b>
VW-1	22	P.G. VW-1 22"				<b>830</b>	
		move Set up					
VW-2	33	P.G. VW-2 33"					
		move Set up					<b>1000</b>
		Try to locate other wells Did not find Any				<b>1000</b>	<b>1100</b>
B-19	19	P.G. B-9 19'				<b>1100</b>	
		move Set up					
B-10	10	Per. B-10, 10'					
		move Set up					
B-7	7	P.G. B-7, 7'				<b>1200</b>	<b>1200</b>
		Cone up & Load up				<b>1200</b>	<b>115</b>
<b>TOTAL FOOTAGE</b>		<b>TOTAL CHARGEABLE RIG HOURS</b>			<b>TRAVEL TO SHOP</b>		
					<b>PM. SHOP TIME</b>		
<b>EQUIPMENT</b>				<b>CASING</b>		<b>MATERIALS</b>	
<b>RIG #</b>	<b>103</b>	<b>COMPRESSOR/JACK HAMMER</b>		<b>DIAMETER</b>	<b>2"</b>	<b>4"</b>	
<b>FLATBED TRUCK #</b>	<b>307</b>	<b>FORKLIFT / HOPPER</b>		<b>20 FT. SCREEN</b>			<b>SAND</b>
<b>FLATBED TRUCK #</b>		<b>CONT. SAMPLER FOOTAGE</b>		<b>10 FT. SCREEN</b>			<b>READY MIX</b>
<b>TRAILER #</b>	<b>203</b>	<b># OF HYDRO PUNCHES</b>		<b>5 FT. SCREEN</b>			<b>QUICK SET</b>
<b># OF SAW CUTS</b>		<b>SNOW FENCE RENTAL</b>	<b>YES</b>	<b>20 FT. BLANK</b>			<b>PORTLAND</b>
<b># OF CORE CUTS</b>				<b>10 FT. BLANK</b>			<b>BENTONITE GROUT</b>
<b># OF BULL DOG</b>				<b>5 FT. BLANK</b>			<b>BENTONITE CHIPS</b>
<b>BOBCAT</b>				<b>SLIP CAP</b>			<b>BENTONITE POWDER</b>
<b>CREW WITH PERDIEM</b>		<b>DEPTH TO WATER</b>		<b>THREADED CAP</b>			<b>BENTONITE PELLETS</b>
				<b>LOCKING CAPS</b>			<b>COATED PELLETS</b>
<b>NAME</b>	<b>SIGNATURE</b>	<b>TOTAL HRS.</b>		<b>SPARGE TIP</b>			<b>BENTONITE GRANULAR</b>
M Waters							<b>ASPHALT PATCH</b>
G Gonzalez							<b>KENAMETAL TEETH</b>
M Davis							<b>SAMPLER SHOE</b>
							<b>BIT REPAIR</b>
<b>REMARKS</b>							

*M Waters*  
CLIENT SIGNATURE

*M Waters*  
OPERATOR SIGNATURE

## **ATTACHMENT B**

### **OCHCA Well Destruction Permits**



## APPLICATION FOR WELL DESTRUCTION PERMIT

ORANGE COUNTY HEALTH CARE AGENCY  
ENVIRONMENTAL HEALTH DIVISION2008 E. EDINGER AVENUE  
SANTA ANA, CA 92705-4721(714) 897-3800  
FAX: (714) 972-0749

CITY <u>Santa Ana</u>		DATE <u>11/29/05</u>
WELL LOCATION (ADDRESS IF AVAILABLE) <u>1222 East First Street, Santa Ana, CA - ARCO 60085</u>		
NAME OF WELL OWNER <u>Atlantic Richfield Company</u>		NAME OF CONSULTING FIRM <u>Delta Environmental</u>
ADDRESS <u>4 Centerpointe</u>		BUSINESS ADDRESS <u>27141 Aliso Creek Rd, Ste 270</u>
CITY <u>La Palma</u> ZIP <u>90623</u> TELEPHONE <u>562-438-3871</u>	CITY <u>Aliso Viejo</u> ZIP <u>92656</u> TELEPHONE <u>949-292-4139</u>	
NAME OF DRILLING CO. <u>Cascade Drilling</u>	C-57 LICENSE NUMBER <u>G-57 717510</u>	WELL DEPTH <u>7.5-22</u> Feet
CITY <u>Los Angeles</u> ZIP <u>90650</u> TELEPHONE <u>562-929-8176</u>		TYPE OF WELL/TOTAL NUMBER <u>4</u>
SEALING MATERIAL / ESTIMATE AMOUNT OF SEALING MATERIAL NEEDED <u>Bentonite / 19 gallons - 45 gallon</u>	DIAMETER <u>4</u> inches	<input type="checkbox"/> WATER <input type="checkbox"/> CATHODIC <input checked="" type="checkbox"/> MONITORING <input type="checkbox"/> OTHER
METHOD OF DESTRUCTION <u>* Overdrill to terminal depth, back fill w/grout, cap w/concrete</u>		PROPOSED START DATE <u>12/2/05</u>
DIAGRAM OF WELL SITE (Use additional sheets and/or attachments)  <u>B-7</u> <u>B-9</u> <u>B-10</u> <u>VW-1</u>		I HEREBY AGREE TO COMPLY IN EVERY RESPECT WITH ALL REQUIREMENTS OF THE HEALTH CARE AGENCY AND WITH ALL ORDINANCES AND LAWS OF THE COUNTY OF ORANGE AND OF THE STATE OF CALIFORNIA PERTAINING TO WELL CONSTRUCTION, RECONSTRUCTION AND DESTRUCTION.  <u>Kristen Daza</u> <u>11/29/05</u> APPLICANT'S SIGNATURE DATE <u>Kristen Daza</u> PRINT NAME <u>949 702-8504</u> <u>949 362-0290</u> PHONE NUMBER FAX NUMBER
<input checked="" type="checkbox"/> SITE PLAN ATTACHED  FOR ACCOUNTING USE ONLY: HSO NO. <u>192519</u> CHECK NO. <u>464592</u> DATE <u>11-29-05</u> AMOUNT <u>444-</u> INTL. <u>nl.</u>		DISPOSITION OF PERMIT (DO NOT FILL IN): <input checked="" type="checkbox"/> APPROVED SUBJECT TO THE FOLLOWING CONDITIONS: A. <input checked="" type="checkbox"/> NOTIFY THIS AGENCY AT LEAST 48 HOURS PRIOR TO START. <u>IF START DATE CHANGES,</u> B. <input type="checkbox"/> SUBMIT TO THE AGENCY A WELL DESTRUCTION REPORT. PLEASE REFERENCE PERMIT NUMBER. C. <input type="checkbox"/> OTHER _____ <input type="checkbox"/> DENIED _____
APPROVAL BY OTHER AGENCIES:  JURISDICTION _____ REMARKS _____ _____ _____ _____		PERMIT ISSUED BY <u>DAN YOKOYAMA</u> <u>11/30/2005</u> DATE <u>DAN YOKOYAMA (714) 433-6288</u> PRINT NAME PHONE NUMBER

WHEN SIGNED BY ORANGE COUNTY HEALTH CARE AGENCY REPRESENTATIVE, THIS APPLICATION IS A PERMIT.

# APPLICATION FOR WELL DESTRUCTION PERMIT

ORANGE COUNTY HEALTH CARE AGENCY  
ENVIRONMENTAL HEALTH DIVISION

2008 E. EDINGER AVENUE  
SANTA ANA, CA 92705-1720

FAX: (714) 972-0749

CITY <u>Santa Ana</u>		DATE <u>12/5/05</u>	
WELL LOCATION (ADDRESS IF AVAILABLE) <u>1222 East First St, Santa Ana - ARCO 6085</u>			
NAME OF WELL OWNER <u>Atlantic Richfield Company</u>		NAME OF CONSULTING FIRM <u>Delta Environmental</u>	
ADDRESS <u>4 Centerpoint</u>		BUSINESS ADDRESS <u>27141 Aliño Creek, Ste 270</u>	
CITY <u>La Palma</u>	ZIP <u>90623</u>	TELEPHONE <u>562-438-3871</u>	CITY <u>Aliso Viejo</u>
NAME OF DRILLING CO. <u>Cascade Drilling</u>		C-57 LICENSE NUMBER <u>438-3871</u>	ZIP <u>92656</u>
CITY <u>Norwalk</u>	ZIP <u>90650</u>	TELEPHONE <u>562-929-8176</u>	TELEPHONE <u>949 292-4139</u>
SEALING MATERIAL / ESTIMATE AMOUNT OF SEALING MATERIAL NEEDED <u>Bentonite / 35 gallons</u>		WELL DEPTH <u>20</u> Feet TYPE OF WELL/TOTAL NUMBER <u>1</u> <input type="checkbox"/> WATER <input type="checkbox"/> CATHODIC <input checked="" type="checkbox"/> MONITORING <input type="checkbox"/> OTHER	
METHOD OF DESTRUCTION <u>overdrill to terminal depth, back fill with grout, chip seal, patch surface w/concrete</u>		DIAMETER <u>4"</u> Inches PROPOSED START DATE <u>12/2/05</u>	
DIAGRAM OF WELL SITE (Use additional sheets and/or attachments)  <u>VW-2</u>		I HEREBY AGREE TO COMPLY IN EVERY RESPECT WITH ALL REQUIREMENTS OF THE HEALTH CARE AGENCY AND WITH ALL ORDINANCES AND LAWS OF THE COUNTY OF ORANGE AND OF THE STATE OF CALIFORNIA PERTAINING TO WELL CONSTRUCTION, RECONSTRUCTION AND DESTRUCTION.  <u>Buster Ng</u> <u>12/5/05</u> APPLICANT'S SIGNATURE DATE <u>Kristen Daza</u> PRINT NAME <u>949 292-4139</u> <u>362-0290</u> PHONE NUMBER FAX NUMBER	
<input type="checkbox"/> SITE PLAN ATTACHED  FOR ACCOUNTING USE ONLY: HSD NO. <u>192561</u> CHECK NO. <u>5075</u> DATE <u>12/5/05</u> AMOUNT <u>111-</u> INTL. <u>Adm</u>		DISPOSITION OF PERMIT (DO NOT FILL IN): <input checked="" type="checkbox"/> APPROVED SUBJECT TO THE FOLLOWING CONDITIONS: A. <input type="checkbox"/> NOTIFY THIS AGENCY AT LEAST 48 HOURS PRIOR TO START. B. <input type="checkbox"/> SUBMIT TO THE AGENCY A WELL DESTRUCTION REPORT, PLEASE REFERENCE PERMIT NUMBER. C. <input checked="" type="checkbox"/> OTHER <u>REMOVE TRAFFIC BOX ALSO.</u> <input type="checkbox"/> DENIED	
APPROVAL BY OTHER AGENCIES: JURISDICTION _____ REMARKS _____ _____ _____		PERMIT ISSUED BY <u>Dan Yokoyama</u> <u>12/7/2005</u> DATE <u>DAN YOKOYAMA (714) 433-6288</u> PRINT NAME PHONE NUMBER	
AUTHORIZED SIGNATURE _____ DATE _____			

WHEN SIGNED BY ORANGE COUNTY HEALTH CARE AGENCY REPRESENTATIVE, THIS APPLICATION IS A PERMIT.

# APPLICATION FOR WELL DESTRUCTION PERMIT

ORANGE COUNTY HEALTH CARE AGENCY  
ENVIRONMENTAL HEALTH DIVISION

2009 E. EDINGER AVENUE  
SANTA ANA, CA 92705-4720

(714) 667-3600  
FAX: (714) 972-0749

CITY <u>Santa Ana</u>		DATE <u>1/23/06</u>	
WELL LOCATION (ADDRESS IF AVAILABLE) <u>1722 East First St. - AR10 6085</u>			
NAME OF WELL OWNER <u>Atlantic Richfield Co.</u>		NAME OF CONSULTING FIRM <u>Delta</u>	
ADDRESS <u>4 Conterpointe</u>		BUSINESS ADDRESS <u>27141 Aliso Creek Rd #270</u>	
CITY <u>La Palma</u> ZIP <u>90623</u> TELEPHONE <u>714-228-6783</u>	CITY <u>Aliso Viejo</u> ZIP <u>92656</u> TELEPHONE <u>949-860-0209</u>		
NAME OF DRILLING CO. <u>Cascade</u>	C-57 LICENSE NUMBER <u>717510</u>		
CITY <u>Norwalk</u> ZIP <u>90650</u> TELEPHONE <u>562-929-8176</u>	WELL DEPTH <u>10</u> Feet TYPE OF WELL/TOTAL NUMBER <input type="checkbox"/> WATER <input type="checkbox"/> CATHODIC <input checked="" type="checkbox"/> MONITORING <u>VADOSE</u> <u>B-6</u> <input type="checkbox"/> OTHER <u>B-8</u>		
SEALING MATERIAL / ESTIMATE AMOUNT OF SEALING MATERIAL NEEDED <u>Bentonite 30 gal each = 60 gal</u>		PROPOSED START DATE <u>12/2/05</u>	
METHOD OF DESTRUCTION <u>Pressure grout</u>			
DIAGRAM OF WELL SITE (Use additional sheets and/or attachments) <u>See map wells B-6 &amp; B-8</u>		I HEREBY AGREE TO COMPLY IN EVERY RESPECT WITH ALL REQUIREMENTS OF THE HEALTH CARE AGENCY AND WITH ALL ORDINANCES AND LAWS OF THE COUNTY OF ORANGE AND OF THE STATE OF CALIFORNIA PERTAINING TO WELL CONSTRUCTION, RECONSTRUCTION AND DESTRUCTION.  <u>[Signature]</u> <u>1/23/06</u> APPLICANT'S SIGNATURE DATE	
<input checked="" type="checkbox"/> SITE PLAN ATTACHED		PRINT NAME <u>CHRIS OTH</u> <u>949-860-0209</u> <u>949-362-0290</u> PHONE NUMBER FAX NUMBER	
FOR ACCOUNTING USE ONLY: HSO NO. <u>300118</u> CHECK NO. <u>886</u> DATE <u>1/26/05</u> AMOUNT <u>222.00</u> INTL. <u>1312</u>		DISPOSITION OF PERMIT (DO NOT FILL IN): <input type="checkbox"/> APPROVED SUBJECT TO THE FOLLOWING CONDITIONS: A. <input type="checkbox"/> NOTIFY THIS AGENCY AT LEAST 48 HOURS PRIOR TO START. B. <input checked="" type="checkbox"/> SUBMIT TO THE AGENCY A WELL DESTRUCTION REPORT. PLEASE REFERENCE PERMIT NUMBER. C. <input checked="" type="checkbox"/> OTHER <u>WELLS WERE DESTROYED ON 12/2/05 - EMERGENCY</u> <input type="checkbox"/> DENIED <u>WELL DESTRUCTION - THIS AGENCY DID NOT WITNESS DESTRUCTION PROCEDURES. MAKE SURE WELL TRAFFIC BOXES WERE REMOVED.</u>  <u>Dan Yokoyama</u> <u>1/24/2006</u> PERMIT ISSUED BY DATE <u>DAN YOKOYAMA (714) 433-6288</u> PRINT NAME PHONE NUMBER	
APPROVAL BY OTHER AGENCIES: JURISDICTION _____ REMARKS _____ <u>1/26/05</u>			
AUTHORIZED SIGNATURE _____ DATE _____			

WELL PERMIT NUMBER

06-01-34

WHEN SIGNED BY ORANGE COUNTY HEALTH CARE AGENCY REPRESENTATIVE, THIS APPLICATION IS A PERMIT.